



HEALTH PROGRAMS

THE
CARTER CENTER



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We believe access to health care is a human right, especially among poor people afflicted with disease who are forgotten, ignored, and often without hope. Just to know that someone cares about them not only can ease their physical pain but also remove an element of alienation and anger that can lead to hatred and violence.

Former U.S. President Jimmy Carter, founder of The Carter Center

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President and Mrs. Carter visit with children in Nigeria who have received treatment for schistosomiasis. The Carters have provided vision for the Carter Center's health programs for more than 30 years.

The Carter Center's health programs fill vacuums in global health, helping to prevent needless suffering and build hope for millions of the world's poorest people.

A leader in the eradication and elimination of diseases, the Center fights six preventable diseases—Guinea worm, river blindness, trachoma, schistosomiasis, lymphatic filariasis, and malaria—by using health education and simple, low-cost methods. The Center also strives to improve access to mental health care.

These efforts have brought to resource-limited countries better disease surveillance and health care training and delivery systems, many established as part of the Center's historic campaign to eradicate Guinea worm disease. Because communities often are burdened by several diseases, the Center has pioneered new public health approaches to efficiently and effectively treat multiple diseases at once.

Our work is diverse but our approach is constant—an emphasis is placed on building partnerships for change among international agencies, governments, nongovernmental organizations, corporations, national ministries of health, and most of all, with people at the grass roots. We help people acquire the tools, knowledge, and resources they need to transform their own lives, building a more peaceful, healthier, and better world for us all.

GUINEA WORM ERADICATION PROGRAM

An ancient and horrible affliction, Guinea worm disease (*dracunculiasis*) is poised to become only the second disease to be eradicated from earth, and the first without using vaccines or medicines, thanks to a three-decades-long international campaign led by The Carter Center.

The disease is contracted when a person drinks contaminated water that contains tiny water fleas harboring the infective worm. Inside the person's abdomen, the larvae mature and grow, sometimes to a length of 3 feet. Guinea worm often is called the "fiery serpent" for the painful, burning sensation that occurs when, after a year, a threadlike Guinea worm slowly emerges through a blister in the skin. The emerging worm must be manually pulled from the body by carefully winding it around a stick a little each day for one to two months. Often people suffer from more than one worm at a time, and the incapacitating wounds caused by the worms can take months to heal.

Guinea worm disease is prevented through health education and other low-tech methods, such as ensuring that everyone in an endemic community uses freely provided nylon filters to strain the Guinea worm larvae from drinking water. People who have emerging worms are taught not to enter water sources, so they do not unwittingly allow the worms to release larvae into the water and continue the life cycle of the parasite. Also, stagnant ponds used for drinking water are treated with the safe larvicide Abate, donated by BASF Corp.



In South Sudan, a young goat herder prepares to drink dam water through a filtration pipe provided by The Carter Center. The filter helps prevent Guinea worm disease.

The disease is prevented through health education and other low-tech methods.

Eradication of Guinea worm has required unprecedented coordination among The Carter Center, national ministries of health, the Centers for Disease Control and Prevention, the World Health Organization, UNICEF, and other partners. So far, the program has achieved great success. Since The Carter Center began the effort to eradicate Guinea worm disease in 1986, cases have been reduced by more than 99.9 percent from 3.5 million. Most of the endemic countries have eliminated the disease, and today the Center is battling Guinea worm in a handful of locations, with eradication on the horizon.



Guinea worms often emerge from victims' legs and feet, but they also can come out of nearly any other place on the body.



In Ghana, volunteer Sulley Zakaria treats one of 10-year-old Hubeida Iddirisu's emerging Guinea worms.

disease through health education, Iddirisu discovered that the most effective way to prevent the disease was to always filter her drinking water to strain out the infective larvae. Today, years after her bout with Guinea worm disease, Iddirisu – and the whole of Ghana – is free of the parasite.

Hubeida Iddirisu

When Hubeida Iddirisu was 10 years old, she suffered three emerging worms during a severe outbreak of Guinea worm disease in her village in northern Ghana. The worms incapacitated her, and she was unable to attend school or work at her after-school job of selling charcoal that helped support her family. "I probably caught the worms when accepting a drink of water from a neighbor during my rounds," she said.

Years after treatment, Iddirisu is all smiles as a young woman free from Guinea worm disease.

After learning more about Guinea worm



RIVER BLINDNESS ELIMINATION PROGRAM

The Carter Center is a leader in the fight against the debilitating parasitic infection river blindness (onchocerciasis). Spread through the bite of a small black fly that breeds in rapidly flowing waters along fertile riverbanks, river blindness can cause intense itching, eyesight damage, and often blindness.

The Carter Center assists national ministries of health in six countries in Africa and the Americas to conduct health education and distribute the medicine Mectizan,[®] donated by Merck. Mectizan kills the parasite's larvae in the human body, preventing blindness and transmission of the disease to others. Since 1996, the program has distributed more than 300 million treatments of Mectizan.

The presence of the disease thwarts economic progress.



In Uganda, James Waya's legs are permanently discolored due to river blindness. Uganda is making steady progress in eliminating the disease.



In Africa, river blindness is widespread, accounting for

more than 99 percent of cases worldwide. The presence of the disease thwarts economic progress, as people abandon rich bottomland near fly-infested rivers to farm less fertile areas. The Carter Center helps to establish community-based programs to distribute Mectizan to eliminate the disease, together with ministries of health and other partners.

In Latin America, where fewer than 1 percent of river blindness cases are found, The Carter Center provides multiple Mectizan treatments per year in endemic areas. After achieving success in four countries, health workers are focused on the border between Brazil and Venezuela, home of the last cases of the disease in the Western Hemisphere.

A health worker in Venezuela measures a child for medication to prevent and treat river blindness. The remote border between Venezuela and Brazil is the last place in the Americas with active disease transmission.



Gabriel Ani is a community drug distributor in Nigeria's Enugu state. Chosen by his neighbors, he is responsible for delivering health education and medication to more than 1,000 people in 129 households.

national governments for maximum effectiveness, offering expertise and funding but relying on local people to carry out the work. In this way, the Center helps communities build their own success.

HOW WE WORK

The Carter Center focuses primarily on preventing the spread of neglected diseases and eliminating or eradicating them where possible. We believe that communities are strengthened when their members are healthier and when they have the tools to change their own lives.

Grass-roots Health Care

Through work to eradicate Guinea worm disease, the Center has pioneered village-based health care delivery systems. Local volunteers are selected and trained to coordinate health interventions within their villages, resulting in a corps of personnel who take personal responsibility for the health of their fellow community members.

Simple Measures, Big Results

The Center often has found that low-technology tools and behavioral change can pay large dividends in people's health. Use of water filters, medicine, low-cost pit latrines, and bed nets, coupled with health education, brings about better overall health that transcends the specific diseases.

Sustainability Is Key

The Center's commitment to a country and its people is long term, designed to truly make a difference for the future. The Carter Center works hand in hand with

TRACHOMA CONTROL PROGRAM

One of the world's leading causes of preventable blindness, trachoma spreads easily from person to person. Of the 190 million people at risk for trachoma, most are children, and 75 percent of those blinded by it are women.

Trachoma, an infectious disease, is prevalent in poor, rural communities that lack the tools for basic hygiene, clean water, and adequate sanitation. It is spread via contact with dirty clothes, hands, and flies that are attracted to people's eyes. In the advanced stage of the disease, called trichiasis, a person's eyelashes turn inward, scraping the cornea with every excruciating blink, causing scarring, diminished vision, and, eventually, blindness.



Emebet Gebre, 11, a student at Abreja Primary School in North Gondar, Ethiopia, demonstrates proper face washing to help stop trachoma infections.

Of the 190 million people at risk for trachoma, most are children.

To eliminate trachoma as a public health problem, The Carter Center, working with ministries of health and many other partners, helps implement the World Health Organization's SAFE strategy—surgery, antibiotics, facial cleanliness, and environmental improvement—in villages of six African countries. As the lead organization worldwide focusing on the environmental facet of the strategy, the Center has assisted the construction of hundreds of thousands of latrines, which helps control the breeding of the flies that carry the disease.



Centayo Fengte, a 65-year-old Ethiopian, recovers after eye surgery to correct a painful and debilitating eye condition caused by the advanced stage of trachoma. The Carter Center and its partners sponsor the free surgery.

A remarkable offshoot of the campaign for latrines has been its impact on women's lives. In Ethiopia, for example, women are discouraged from relieving themselves in the daytime because it would be highly shameful for them to be seen. The privacy offered by a latrine—which with local materials can cost less than US \$2 to build—means women can access it at any time.

In addition, The Carter Center supports distribution of antibiotics, including Zithromax[®], donated by Pfizer Inc, and helps train and equip eye surgeons to correct eyelids turned inward from trachoma infections.

LYMPHATIC FILARIASIS ELIMINATION PROGRAM

The Carter Center has shown that lymphatic filariasis transmission can be interrupted on a large scale in Nigeria, Africa's most endemic country, through mass drug treatment and health education. The Center has assisted Nigeria's national lymphatic filariasis program since 1998; it also works with Haiti and the Dominican Republic to eliminate the disease. These efforts stem from a determination by the Center's International Task Force for Disease Eradication that lymphatic filariasis is among the few diseases that can be eradicated.

Swollen limbs have a devastating effect on the quality of life of those affected.

A mosquito-borne disease, lymphatic filariasis is a leading cause worldwide of permanent and long-term disability. In its severest form, lymphatic filariasis leads to elephantiasis, a crippling and irreversible condition in which the limbs are grotesquely swollen or enlarged.

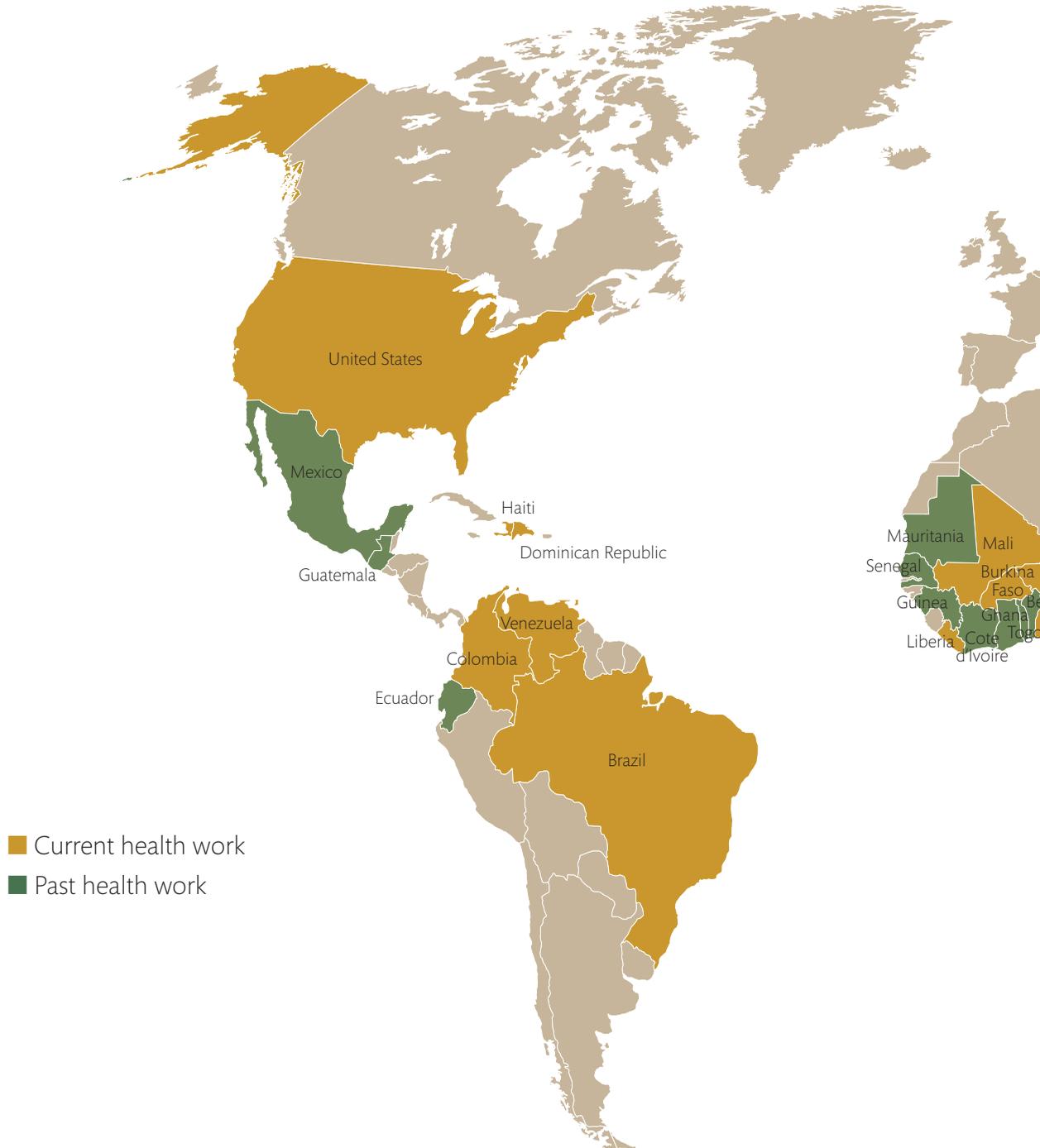
In communities endemic for this disease, as many as 10 percent of women can be affected with swollen limbs, and 50 percent of men can suffer from mutilating genital lymphedema. These conditions have a devastating effect on the quality of life of victims, impacting them not only physically but also emotionally and economically.

A partnership between The Carter Center and state health ministries has eliminated lymphatic filariasis from Nigeria's Plateau and Nasarawa states, protecting more than 7 million people from the disease. The strategy involves the mass administration of the drugs Mectizan (donated by Merck) and albendazole, combined with health education and distribution of bed nets to reduce the mosquito bites that transmit the infection. The Center and Federal Ministry of Health are working to duplicate the success in additional states.

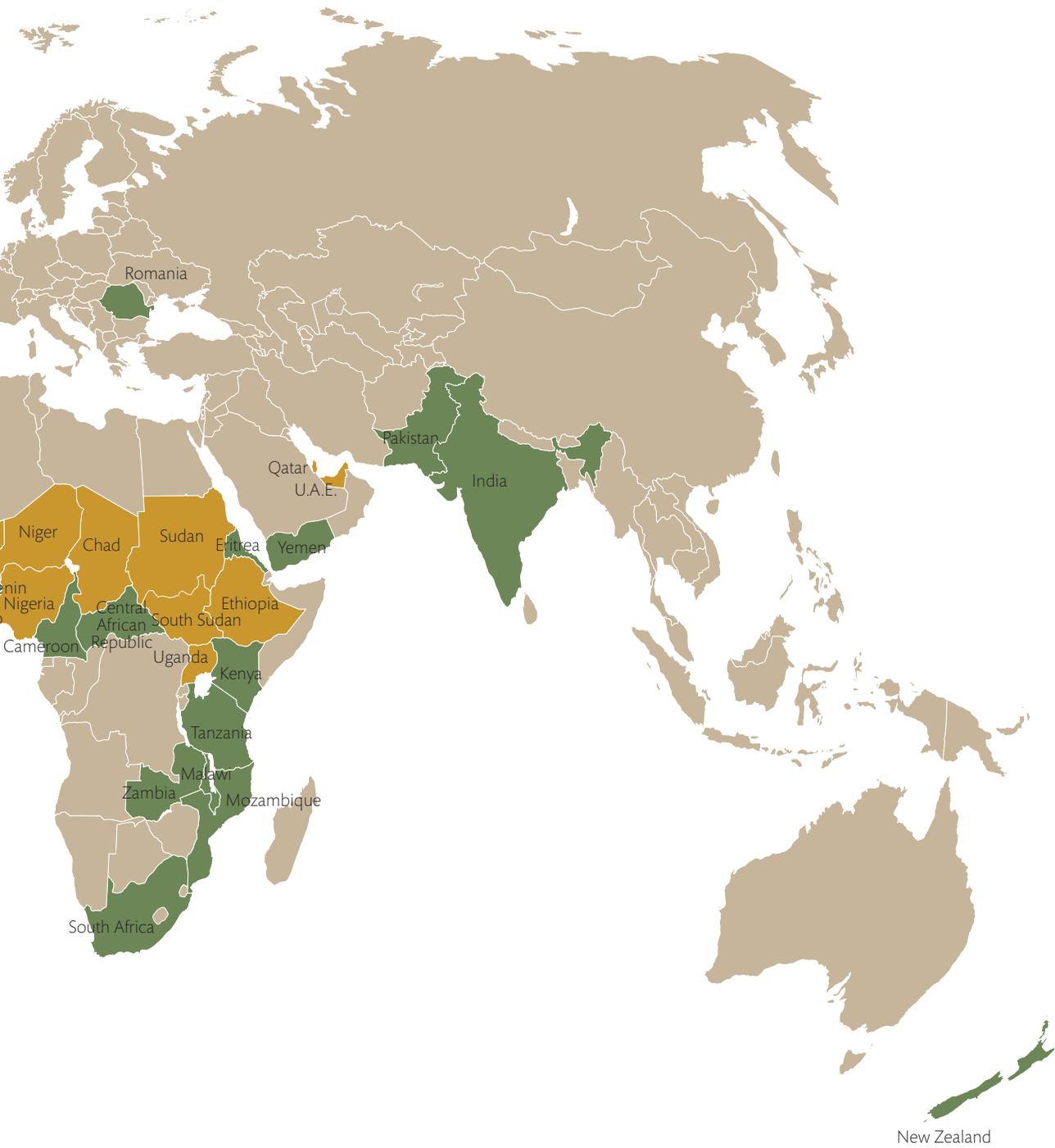


Maritha Ndidi Ekeanyawu of Nigeria's Imo state sought help from doctors and traditional healers for her swollen legs. They gave her toxins to ingest and burned her legs, causing scarring. She has since learned from Carter Center staff that she has the parasitic disease lymphatic filariasis and received education on caring for her legs and ensuring her daughter takes medication to prevent the disease.

CARTER CENTER HEALTH WORK AROUND T



THE WORLD



SCHISTOSOMIASIS CONTROL PROGRAM

In terms of socioeconomic and public health impact, schistosomiasis, also known as bilharzia or snail fever, is second only to malaria as the most devastating parasitic disease in tropical countries. Approximately 20 million Nigerians, including 16 million children, need to be treated for schistosomiasis, making the country one of the most endemic in the world.

The Carter Center works in Nigeria to help the government provide health education and schistosomiasis treatment to communities in six states—Delta, Ebonyi, Edo, Enugu, Nasarawa, and Plateau—where the need is greatest.

Schistosomiasis is contracted easily through any contact with contaminated freshwater, including activities such as bathing, washing laundry, and fetching water. The parasite can live for years in the veins near the bladder or intestines, laying thousands of spiny eggs that tear and scar tissues of the intestines, liver, bladder, and lungs. Many victims suffer from bloody urine, diarrhea, bladder dysfunction, kidney and liver disease, and sometimes, cancer.

Schistosomiasis is contracted easily through any contact with contaminated freshwater.

For communities already burdened by poverty and ravaged by scourges such as malaria and tuberculosis, schistosomiasis is especially devastating—weakening the body's resistance to other infections and preventing children from reaching their full potential.

Schistosomiasis can be easily controlled and treated with a single annual dose of the medicine praziquantel. As a result of the Carter Center's efforts in Nigeria, more than 10 million treatments have been distributed since 1999.



Ten-year-old Gideon, who lives in southern Nigeria, listens to his schoolteacher. A test showed he has blood in his urine, a symptom of the parasitic disease schistosomiasis.

Cross-Border Coordination

Parasites and bacteria have no respect for international borders. The water fleas that host Guinea worm larvae, the mosquitoes that transmit lymphatic filariasis and malaria, and the flies that spread river blindness and trachoma don't care which country they land in.

The Carter Center helps nations work together to protect their people from disease.

On the Caribbean island of Hispaniola, a jagged north-south line divides Haiti from the Dominican Republic. Thousands of Haitians – some of them infected with malaria or lymphatic filariasis – cross that line frequently. Mosquitoes, the vector for both diseases, also freely traverse that same line. Since 2008, The Carter Center's Hispaniola Initiative has assisted both countries' ministries of health by helping to integrate activities between the countries' malaria and lymphatic filariasis programs.

In Africa, Mali shares borders with seven other countries, several of which harbor Malian refugees fleeing political unrest at home. This makes cooperation with neighbors essential. With The Carter Center coordinating, Mali and neighbor Niger have worked together closely to control the infectious eye disease trachoma. Representatives of each country's health ministry have observed field activities and even shared treatment protocols.

Sudan also has seven adjacent neighbors, including Ethiopia. River blindness and trachoma are endemic to both countries, and coordination of elimination efforts is essential in border areas if either is to see sustained success. Similarly, Venezuela and Brazil have signed a Carter Center-supported agreement to work together on river blindness elimination in the Amazon rainforest.

"Because people are moving freely across borders, it's important that we agree on when to conduct mass drug administration or how we carry out vector control," said Sudan's Dr. Isameldin Mohammed Abdalla. "Synchronizing this can be challenging, but it can be done."

A Malian man travels by boat on the Niger River. Rivers and other delineations signal national borders to people, but disease vectors such as flies and mosquitoes travel internationally quite easily. Mali is working together with its many neighbors to fight trachoma in border areas.



Aiming for Zero

The Carter Center has become a global leader in the eradication and elimination of diseases, focusing efforts to build health and hope in some of the poorest and most isolated places on earth. Eradication campaigns aim to rid the earth of a disease altogether; elimination efforts attempt to abolish a disease in a specific geographic area, such as a country or region.

Since 1986, the Center has spearheaded the international campaign to eradicate Guinea worm disease. Through use of simple tools like health education and fine-mesh filter cloths, cases of the disease have been reduced more than 99.9 percent since 1986.

With its partners, the Center also has made great strides in eliminating river blindness from Latin America. Through health education and mass drug administration, people in the region are no longer being blinded by the disease, caused by repeated bites of tiny black flies. Of the six countries that were endemic in 1996, four have stopped transmission of the disease. In Ghana, Carter Center-led interventions have helped eliminate blinding trachoma, a bacterial eye disease that can be extremely painful in its latter stages. And recent Carter Center work in Nigeria has shown it is possible to eliminate lymphatic filariasis, a parasitic disease that causes painful and severe swelling, resulting in social stigma for victims.

International Task Force for Disease Eradication

Inspired by the successful eradication of smallpox in 1977, the Carter Center's International Task Force for Disease Eradication evaluates disease control and prevention as well as the potential for eradicating other infectious diseases. The task force includes global health experts from notable international health organizations. Since 1988, the group has reviewed more than 100 infectious diseases and identified seven as potentially eradicable: dracunculiasis (Guinea worm disease), lymphatic filariasis, measles, mumps, poliomyelitis, rubella, and taeniasis/cysticercosis (pork tapeworm). A 1992 recommendation from the task force catalyzed a global effort to eliminate lymphatic filariasis.



These boys from South Sudan are among the last in the world to suffer from Guinea worm disease. With eradication as the goal, The Carter Center has reduced cases of the disease by 99.9 percent since 1986. Where possible, eradicating a disease is less expensive in the long term than controlling a disease's spread indefinitely.

HISPANIOLA INITIATIVE

The Carter Center's Hispaniola Initiative works with the ministries of health in Haiti and the Dominican Republic to accelerate the elimination of malaria and lymphatic filariasis from the countries' shared island of Hispaniola. It is the only island in the Caribbean with active malaria transmission and also accounts for approximately 90 percent of the lymphatic filariasis burden in the Western Hemisphere.

The Carter Center began its work in Haiti and the Dominican Republic after a recommendation from the International Task Force for Disease Eradication that concluded elimination of malaria and lymphatic filariasis from Hispaniola was "technically feasible, medically desirable, and would be economically beneficial" to both countries.

Since 2008, the Carter Center's Hispaniola Initiative has assisted both countries' ministries of health by strengthening binational cooperation, providing technical assistance for elimination of both diseases, and helping to integrate activities between the countries' malaria and lymphatic filariasis programs.

Hispaniola is the only island in the Caribbean with active malaria transmission.

In 2014, The Carter Center expanded its support for malaria and lymphatic filariasis elimination in both countries, including participation in Malaria Zero, a consortium of partners working to accelerate the elimination of malaria from Haiti. The Carter Center is leading efforts to deliver anti-malaria interventions to affected communities.

Recent case counts show that malaria cases have dropped significantly since 2010, indicating that the national programs are achieving success. For lymphatic filariasis, most of Haiti's communities have received multiple rounds of mass drug administration to interrupt transmission, while in the Dominican Republic, transmission has been interrupted in most focus areas.



In Ouanaminthe, Haiti, a mother waits at a clinic to have her daughter tested for malaria.

PUBLIC HEALTH TRAINING INITIATIVE



The Carter Center is working with Sudan's Ministry of Health to increase the number of health professionals who will work to improve the health of mothers and children.

The Carter Center and the federal ministries of health in Sudan and Nigeria to increase the number of health professionals who will focus on improving maternal and child health. The strategy is threefold: (1) improve the learning environment of adult students enrolled in state health science training institutions, (2) train health science educators and health professionals, and (3) produce learning materials tailored to each country's context and specific health needs.

The Carter Center seeks to replicate in these countries the success of its former Ethiopia Public Health Training Initiative, which partnered with universities and ministries of health and education to train frontline health professionals and educators.

Maternal and child health indices in Nigeria and Sudan have remained very poor due in part to the lack of properly trained health professionals.

Under the initiative, the health science curricula are revised and standardized, faculty and staff are trained in clinical teaching methods, and the learning environment is enhanced. Over the course of the program, The Carter Center expects the federal governments to take full ownership of the program throughout their selected target communities.

The World Health Organization has identified Nigeria and Sudan as countries suffering an acute health care workforce crisis. The crisis has negatively impacted these countries' ability to provide essential, life-saving interventions such as safe pregnancy and delivery services for mothers and child immunizations. Maternal and child health indices in Nigeria and Sudan have remained very poor due in part to the lack of properly trained health professionals who can address maternal and child health needs.

The Public Health Training Initiative is a joint effort between

MENTAL HEALTH PROGRAM

Despite growing knowledge of brain disorders, myths about mental illnesses and discrimination toward those who suffer from them remain.

Under the leadership of former First Lady Rosalynn Carter, the Carter Center's Mental Health Program works to promote awareness about mental health issues, reduce stigma and discrimination against those with mental illnesses, and achieve greater parity for mental health in the U.S. health care system.

The Center brings together health leaders and national organizations to discuss important issues facing the mental health care system at annual symposia.

In response to increasing scientific evidence that most people with depression and substance abuse disorders do not seek the specialty care they need, the Center's primary-care initiative works with national experts to identify ways to improve mental health care access and quality.

Media coverage has tremendous potential to improve the public's understanding of mental health issues, and it can play a critical role in reducing stigma and discrimination against people with mental illnesses. Recipients of the Rosalynn Carter Fellowships for Mental Health Journalism from the United States, New Zealand, Romania, South Africa, Colombia, the United Arab Emirates, and Qatar have produced award-winning books, newspaper articles, and radio and video documentaries covering topics such as mental health care for the homeless, suicide, and aging and mental health.

Myths about mental illnesses and discrimination toward those who suffer from them remain.

In Liberia, The Carter Center partners with the government and other local stakeholders to train a mental health workforce, assist the Ministry of Health in implementing the national mental health policy and plan, implement anti-stigma programming, and empower mental health service users and family caregivers.



Klubo Mulba (left), a physician assistant in Liberia, is a certified mental health clinician following an intense training program sponsored by The Carter Center. The Center and its partners have trained and graduated over 200 mental health clinicians in Liberia, which has seen the ravages of civil war and Ebola.



Thank You.

The Carter Center's work to bring hope through better health to some of the world's most forgotten people would not be possible without the generous support of our donors. To contribute or find out more, contact a member of our development staff at (404) 420-5109 or visit www.cartercenter.org/donate.

A not-for-profit, nongovernmental organization, The Carter Center has helped to improve life for people in more than 80 countries by resolving conflicts; advancing democracy, human rights, and economic opportunity; preventing diseases; and improving mental health care. The Carter Center was founded in 1982 by former U.S. President Jimmy Carter and former First Lady Rosalynn Carter, in partnership with Emory University, to advance peace and health worldwide.

THE
CARTER CENTER



Waging Peace. Fighting Disease. Building Hope.

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